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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/852,077

05/09/2001

Michiaki Sakamoto

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23389

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12/13/2006

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EXAMINER

NGUYEN, DUNG T

ART UNIT

PAPER NUMBER

2871

DATE MAILED: 12/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	09/852,077		SAKAMOTO, MICHIAKI	
	<b>Examiner</b>		<b>Art Unit</b>	
	Dung Nguyen		2871	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 9/29/06.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 26, 28-43, 45 and 46 is/are pending in the application.
- 4a) Of the above claim(s) 28-41 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 26, 42, 43, 45 and 46 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

### DETAILED ACTION

Applicants' response dated 09/29/2006 has been received and entered. Claims 26, 2-43 and 45-46 are remain pending in the application.

#### *Claim Rejections - 35 USC § 103*

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claim 26 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Shimada et al., US Patent No. 5,852,485, in view of Kadota et al., US Patent No. 5,818,550 and Hayase et al., US Patent No. 5,702,776.

Regarding claims 26, Shimada et al. disclose an in-plane switching liquid crystal display (LCD) device having:

- . a pair of substrate (21, 212);
- . a gate insulating layer (23)
- . a protection layer (29) formed over the lower substrate (21)
- . a thin film transistor (TFT) formed on the lower substrate (21);
- . a color filter (218);
- . a liquid crystal layer (217) formed between the color filter (218) and substrate (212);
- . a common electrode (213) and a pixel electrode disposed between the color filter and the liquid crystal layer;
- . an alignment layer (216).

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Shimada et al., however, do not disclose the color filter forming over the protective layer as well as a light shield on the protection layer. Kadota et al. et al. do disclose that a color filter (9) can be formed over a protective layer (4c) and a light shield (black mask 8c) formed on the protection layer (4c)(see figure 4). Therefore, it would have been obvious to one skill of ordinary in the art to employ the Shimada et al. color filter (218) over the protective layer (29) as shown by Kadota et al., since it has been held that rearranging parts of an invention involves only routine skill in the art (as evidence from Kadota et al.) as well as to employ a light shield on a protection layer so as to cover TFTs underneath..

In addition, Shimada et al., neither discloses a flat color filter nor an insulating layer forming between the pixel electrode and the common electrode. Hayase et al. do disclose a color filter (10) having a flat surface formed on a lower substrate (11). Therefore, it would have been obvious to one skilled in the art at the time of the invention was made to employ a color filter having flat-surface on both sides (upper surface and lower surface) in the Shimada et al. device as shown by Hayase et al., since it is a common practice in the LCD art in order to obtain a highly refined color filter in an LCD device (col. 2, ln. 8). In addition, one skilled in the art would have realized the desire to form an interlayer between two electrodes (e.g., pixel and common electrodes in different layers) for insulating such two electrodes. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to form a common electrode under an insulating layer and a pixel electrode over the insulating layer in order to avoid cross-talk between two different electrodes.

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3. Claims 42-43 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Shimada et al., US Patent No. 5,852,485, in view of Kadota et al., US Patent No. 5,818,550 and Hayase et al., US Patent No. 5,702,776, further in view of Xu et al., US Patent No. 6,023,317.

Regarding the above claims, the modification to the Shimada et al. discloses the claimed invention as described above except for compensation films forming between a substrate and a polarizing film. Xu et al. do disclose in figures 1-3 that an optical compensation film (e.g., positive and/or negative) can be disposed between a substrate and a polarizing film. Therefore, it would have been obvious to one skilled in the art to employ the optical compensation film in the Shimada et al. device in order to improve viewing characteristics (Xu et al., abstract).

4. Claim 45 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Shimada et al., US Patent No. 5,852,485, in view of Kadota et al., US Patent No. 5,818,550 and Hayase et al., US Patent No. 5,702,776, further in view of Kakinuma et al., US Patent No. 5,721,597.

Regarding claim 45, the modification to the Shimada et al. discloses the claimed invention as described above except for an organic material comprising monomers or oligomers added into the liquid crystal, and polymerized such liquid crystal compound. Kakinuma et al. disclose a liquid crystal layer can be formed by mixing monomers (or oligomers) into the liquid crystal, then polymerizing such liquid crystal compound (col. 6, lines 36-39). Therefore, it would have been obvious to one skilled in the art to employ the Shimada et al. liquid crystal layer by polymerizing a liquid crystal compound including liquid crystal and monomers or oligomers in order to improve the high speed response in an LCD device (col. 10, ln. 21).

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5. Claim 46 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Shimada et al., US Patent No. 5,852,485, in view of Kadota et al., US Patent No. 5,818,550 and Hayase et al., US Patent No. 5,702,776, further in view of Shim et al., US Patent No. 6,181,402.

Regarding claim 46, the modification to the Shimada et al. discloses the claimed invention as described above except for the vertical orientation films. Shim et al. disclose a homeotropic LCD device by forming vertical alignment layers as shown in figure 3A. Therefore, it would have been obvious to one skilled in the art at the time of the invention was made to modify the Shimada et al. device having a vertical alignment layer as shown by Shim et al. in order to obtain an LCD device having a wide viewing angle (col. 2, line 11).

It should be noted that the method of manufacturing the device is merely a list of forming each component and each component must be formed to make the device; therefore, the method of manufacturing as stated above would be inherent to the device.

### ***Response to Arguments***

6. Applicant's arguments filed 09/29/2006 have been fully considered but they are not persuasive.

Applicants, regarding claim 26, contend that there is no suggestion being provided in any of the cited prior art references for a need of an addition separation layer based on the disclosed arrangements of each reference. The Examiner respectfully disagrees with Applicant's view point. Specifically, Shimada et al. might not teach an addition separation layer between the pixel electrode and the common electrode; however, Shimada et al. reference does not restrict to form such the addition separation layer thereinbetween. In addition, such the addition separation

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layer is well known and conventional in the art to separate electrodes as evidence from Applicants' admitted prior art, figure 30B, which discloses an insulating layer being formed between the counter electrode (35) and the pixel electrode (drain electrode 34) to avoid cross-talk between electrodes. It should also be noted that, as decided in the Courts, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ an addition layer for its own function (e.g., inter-insulating layer for insulating purpose, orientation layer for aligning liquid crystal molecules) instead of using one layer for both function (e.g., orientation layer for insulating and aligning the liquid crystal molecules), since it has been held that constructing a formerly integral structure in various elements involves only routine skill in the art. *Nerwin v. Erlichman*, 168 USPQ 177, 179.

### ***Conclusion***

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

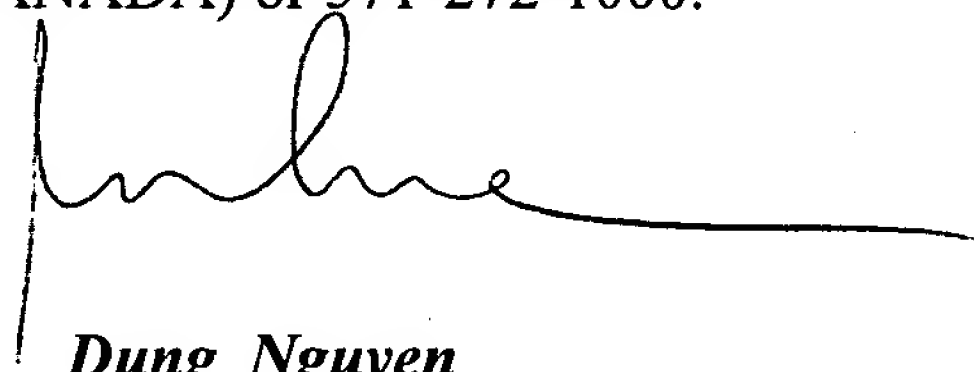
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung Nguyen whose telephone number is 571-272-2297. The examiner can normally be reached on Tuesday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on 571-272-1782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DN  
12/11/2006



**Dung Nguyen**  
**Primary Examiner**  
**Art Unit 2871**